Environmental entrepreneurship: The sustainability challenge

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Abstract

Objectives: The past decade has seen an upsurge in academic, practitioner and policy interest in environmental entrepreneurship (e.g. Kirkwood and Walton, 2010a, b; Walley et al, 2010), as well as a focus on 'sustainable entrepreneurship' in the United States (US) and United Kingdom (UK) (e.g. Cohen & Wynn, 2004; Dean and McMullen, 2007; Hall et al, 2010; Pacheco et al, 2009; Parrish, 2005, 2007a, b; Parrish and Foxon, 2009; Rodgers, 2009; Tilley and Parrish, 2006, 2009). Because this nascent topic – which straddles entrepreneurship, sustainability, innovation and technological change – remains under-theorised with clear gaps in the literature, this paper develops conceptual understanding of the link between environmental entrepreneurship, sustainability, and innovation.

Approach: We review critically the literature on environmental entrepreneurship, highlighting (as above) a lack of conceptual development, and relate it to debates within other related fields, such as innovation and technological change (e.g. Drucker, 1985a, b; Rothwell, 1994; Preece and Laurila, 2003; Bolton & Thompson, 2004) and strategic entrepreneurship (e.g. Covin & Miles, 1999; Thompson, 1999; Hitt et al, 2001). Subsequently, we present two testable conceptual models, which, with ongoing research we are applying to a diverse range of case studies.

Results: Therefore, building on prior work by Bolton & Thompson (2004) – which identified a 'social facet' which can affect a person's temperament and which manifests itself as a hierarchy of four stages – the authors develop two new conceptual frameworks. Both feature a Business/Environment Sustainability Index (e.g. a double or maybe even a triple bottom line assessment or sustainable value (see Figge & Hahn, 2005; Hahn et al 2007)). One framework separates opportunity-driven businesses from those constrained by regulation; and the second distinguishes economics as a predominant motive force from cause-driven behaviour.

Implications: At a global level, we are concerned about things that are happening in the world, generally things many perceive as 'negative' in the context of (environmental) sustainability. At a national level, wealthy and successful regions attract more money and value creators, while relatively unsuccessful regions enter into a spiral of decline, resulting in blighted landscapes and no-go areas – whilst their renewal might be a local issue it has wider connotations – the funding and energy required could go elsewhere. Locally, it can be tempting to believe any development is better than no development.

Value: This paper provides novel conceptual models for an emerging topic within the fields of entrepreneurship and sustainability and considers whether it needs organisations to be 'on message' for successful environmental outcomes to be achieved. It is a work-in-progress that the authors are continuing and it can also be an opportunity for other researchers with an interest in environmental entrepreneurship.

Key words: Environmental entrepreneurship, sustainability, sustainable value, strategy, innovation, ecopreneurship, entrepreneur enabling, performance

1. Introduction and Contextualisation: Environment, Policy & Entrepreneurship

While concern for the environment is certainly not novel (e.g. Carson, 1962), only in the past decade has there been an upsurge in academic, practitioner and policy interest in environmental entrepreneurship (e.g. Kirkwood and Walton, 2010a, b; Walley et al, 2010), as well as a focus on 'sustainable entrepreneurship'[1] in the US and UK (Cohen & Wynn, 2004; Dean and McMullen, 2007; Hall et al, 2010; Pacheco et al, 2009; Parrish, 2005, 2007a, b; Parrish and Foxon, 2009; Rodgers, 2009; Tilley and Parrish, 2006, 2009), crisscrossing contemporary debates about whether environmentalism and the market are in opposition or in collusion (Mars and Lounsbury, 2009). This nascent topic – which straddles entrepreneurship, environmental sustainability, innovation and technological change – remains under-theorised, disconnected largely from other mainstream literatures, concepts and constructs, and there are still significant gaps in the literature, most notably a significant lack of empirical evidence. Accordingly, this paper develops our conceptual understanding of environmental entrepreneurship [2] and sustainability. The paper includes a critical literature review, a number of relevant case examples and two new conceptual frameworks.

Since the Bolton report (1971), there has been a long tradition of research into SMEs and entrepreneurship in the UK (Blackburn and Smallbone, 2008; Blackburn and Kovalainen, 2009; Curran and Storey, 2002; Gibb, 2000a, b) and evaluation (Greene, 2009; Storey, 1998, 2002). Academic research can have differential impacts on policy and practice, according to Davidsson (2002), and while historically "research has had relatively little impact" upon the creation of UK SME policy (Curran and Storey, 2002: 163), Blackburn and Smallbone (2008: 277-8) observed:

> "Apart from the quality of the research itself, other factors which affect its influence on policy include the extent that policy makers are really committed to evidence based policy and the process of policy making itself; the context in which the research is commissioned; and the relationship between those commissioning the research within a policy agency or government department and the end users i.e., those responsible for actually developing and/or implementing policy."

UK Government policy has encouraged university-industry collaborations, such as the Lambert Review (Lambert, 2003), itself part of the Innovation White Paper (Department of Trade and Industry, 2003), which is based on the assumption that increasing innovations, through university-business linkages (for example, spin-outs and knowledge transfer) can effectively improve economic performance measured by metrics such as competitiveness (Porters and Ketels, 2003). The Dyson Report, titled "Making the UK the leading high tech exporter in Europe", had a number of recommendations, such as increasing the number of science, technology, engineering and mathematics (STEM) graduates, and making universities more responsive to the needs of businesses (Dyson, 2010), and the Coalition has said that it will "consider" its recommendations (HM Government, 2010: 10). The 2010 UK Budget is based upon the understanding that the UK has lost some of its competitiveness and: "has become more dependent on growth in the public sector" (HM Treasury, 2010: 25). The Coalition proposes to replace this reliance on public sector spending growth with vastly increased exports. Creating a Green Investment Bank (HM Treasury, 2010) and encouraging environmental innovators/entrepreneurs can clearly lead innovating, patenting and exports, improving economic performance.

[1] Defined as "one which enables founders to obtain entrepreneurial rents while simultaneously improving local and global social and environmental conditions" (Cohen and Wynn, 2007: 29).

[2] It is beyond the scope of this paper to consider non-entrepreneurial forms of environmental business management, for example the literature on environmental improvements in small and medium-sized enterprises (SMEs) has been comprehensively reviewed (Parker et al, 2009). This paper focuses upon environmental *entrepreneurship*, associated with new venture creation, as defined in Sections 3 and 4 below.

Clearly, the environmental sector can generate significant employment opportunities (Eastwood et al, 2001, 2006; Eaton and Stark, 1999). The new Government also seeks to implement policies that have, rather than solely traditional Hayekian 'free market' influences, a concern for society and the impact of policies upon the poorer section of the community, i.e. of social impact. At the heart of this lies the critique of the 'market state', which has, it has been argued, involved fusion of 'extreme individualism' with centralised, authoritarian statism (Blond, 2010). Further to this are the linked visions of the restoration of the "civic middle" of voluntary organisations that were displaced by encroaching statism, and an Economics of Virtue (Blond, 2010), which is inspired by MacIntyre (1985) and other antecedent writers on virtue ethics. Another aspect of Government policy is the commitment to a low carbon economy (HM Treasury, 2010), which is continuity rather than change (see, for example, Lourenço et al. (2005) for a review of previous Government policy on sustainable development, Agenda 21 etc). It is, however, one of the principal drivers of environmental entrepreneurship , which is, in Druckerian terms, sourced from eco-regulatory changes, new knowledge, changes in perceptions and also 'finding and occupying a specialized ecological niche' (Drucker, 1985a, b), linking environmental entrepreneurship firmly with the domain of innovation.

Indeed, environmental entrepreneurship could be conceptualised as being formed from a push-pull relationship between technology and ecology – and there are legislative and market drivers too. Technology makes possible new environmental initiatives - it provides opportunities; at the same time, the desire to 'improve the world' (whether that desire is held by inventors or environmentalists) provides motivation and thus opportunities for inventors/technologists. Rothwell's (1994) five generations of innovation models started with technology push (the first generation) and then market pull (the second generation), which were simplistic linear processes and so on, becoming much more complex as time went on (Rothwell, 1994). The field of "technological change" and how eco-entrepreneurs can be organisational and technological change agents (Preece and Laurila, 2003; Pastakia, 1998) inform us that as technologies change and new legislative parameters act as triggers for the environmental innovations. Link (2008: ix) emphasizes that technological change enhances productivity growth and, therefore, economic growth and 'ultimately leads to an improvement in the quality of life'.

Legislated requirements and targets can push entrepreneurs and organisations to be more committed to environmental and ecological concerns by providing both opportunities and constraints. At the same time, opportunistic and committed environmental entrepreneurs spot and exploit opportunities to both gain competitive advantage and deliver important outcomes by focusing on green issues. Importantly the outcomes can be the same. Furthermore, the 'topic' has global, national and local parameters, impacts and implications.

Environmental entrepreneurship and globalisation go hand in hand (Isaak, 1997). At a **global level,** we are concerned about things that are happening in the world, generally things many perceive as 'negative' in the context of (environmental) sustainability. Some activities that generate debate and action can be economically very valuable for the entrepreneurs (businesses) behind them – and the businesses can create jobs and produce products that people want. Good quality furniture needs wood – it has to come from forests somewhere – and yet unless deforestation and the down-line businesses are managed responsibly they can bring social and environmental costs that many feel simply cannot be justified. To add to the complexity with this the 'negative impact' may not be felt in the same place(s) where the economic benefit is highest.

It is perhaps a relevant side-issue that with many so-called campaigners' emotions run high and there is evidence that research findings have been used selectively to make a preferred case. Witness the University of East Anglia (UEA) and the climate research data scandal. Also: some campaigners clearly believe that decisions – such as those concerning nuclear power - should be made with environmental sustainability the number one priority; they don't worry unduly that the ultimate customer/consumer will end up paying more without any option to choose a cheaper alternative. Although it isn't necessarily apparent cause-driven campaigners can themselves be in competition – which matters most, the risk of nuclear waste disposal or landscapes and seascapes covered with wind turbines?

At every level of impact, then, there is a question concerning whose responsibility it is. How much is down to the individual entrepreneurs? How much do we need legislation/controls – and once we get beyond national boundaries how much of an issue is this?

At a **national level,** we might think about social and economic wealth and deprivation inequalities. Wealthy and successful regions attract more money and value creators. Relatively unsuccessful regions can get into a spiral of decline. We can end up with blighted landscapes and no-go areas – whilst their renewal might be a local issue it has wider connotations – the funding and energy required could go elsewhere. Part of the challenge is getting those involved nationally as well as locally to take a holistic perspective. Every community wants ready access to adequate and affordable power – but do they want the power generation on their patch?

Locally, it can be tempting to believe any development is better than no development – in the context of the same issue. Where there is a blighted community is there a real possibility that planning permission might be given to some development that brings jobs and economic wealth but is aesthetically displeasing? Short term gains and long term problems? So the challenge here is responsible planning and development – and whose responsibility this is.

History tells us a great deal. Industrialisation was brought about by entrepreneurs – mill owners, mine owners, factory builders. Some – especially where there was a Quaker influence – built communities. Witness Bourneville and Saltaire. But not all industrial development happened in this way – some wastelands have been created as industries have declined. These are now seen as part of the regeneration agenda. Entrepreneurial communities need entrepreneurs; in turn the would-be entrepreneurs will need effective support. This relies in large part on 'entrepreneurship enablers' who, one assumes, will care about the environmental implications of the activity they spawn. In other words, the changes are both bottom up and top down. Basically, social/environmental problems lead us to identify community needs. These needs can be directly or indirectly met by wealth-creation and industrialisation. But this has to be sustainable.

So: What do we mean by sustainability in this context? Later in this paper we offer two new conceptual models which feature a Sustainability Index represented by a triple bottom line. Our thinking here is not controversial. We are looking for organisations that are financially sound – they have income from activity-generated activities or grant (or similar) funding that allows us to believe they can continue to operate for at least the foreseeable future – and whose activities create demonstrable social value (they help communities or groups of individuals and their absence would be noticeably missed). Thirdly, the organisation has either a neutral or a positive impact upon the environment; certainly they are not destroying what anyone might perceive to be environmental capital.

The remainder of the paper is structured as follows. In the next section, we outline our methodology. In Section Three, we provide a theoretical overview from the perspective of the entrepreneurship, innovation and strategy fields, and Section Four reviews the knowledge on environmental entrepreneurship and articulates two new conceptual frameworks. Section Five offers conclusions and recommendations.

2. Approach

We review critically the literature on environmental entrepreneurship, highlighting (as above) a lack of conceptual development, and relate it to debates within other related fields, such as innovation and technological change (e.g. Drucker, 1985a, b; Rothwell, 1994; Preece and Laurila, 2003; Bolton & Thompson, 2004) and strategic entrepreneurship (e.g. Covin & Miles, 1999; Thompson, 1999; Hitt et al, 2001). The literature survey has identified a number of gaps and issues and also drawn attention to opportunities to examine the relevant themes and issues through alternative lenses. Subsequently, therefore, we present two testable conceptual models, which we are currently testing by applying them to a diverse range of case studies. This on-going work is not discussed in this paper.

3. Theoretical Overview: Entrepreneurship, Innovation, Strategy & Performance

This section incorporates a brief review, first, of some of the relevant literature on entrepreneurship (and entrepreneurial strategy), innovation and strategic management, which is then related in the next section to the state of knowledge on environmental entrepreneurship. This section seeks to outline the key concepts on which our understanding of environmental entrepreneurship should be based. Here, we provide clear conceptualisations of the key terms and topics being developed in this paper.

3.1 Entrepreneurship and Innovation

Related to the entrepreneur, defined as:

> "A **person** who *habitually* creates and innovates to build something of recognised **value** around perceived **opportunities**" (Bolton and Thompson, 2004: 16).

As Bolton and Thompson (2004) also clarified, 'person' means 'personality' (as opposed to a system) and, therefore, entrepreneur teams are included in this definition. They can exist in SMEs or large firms – as 'intrapreneurs' – depending on their entrepreneurial talent (ibid)[3] (see also Thompson,2004). 'Habitual' means an ongoing state of being, unlike many owner-managers or lifestyle businesses. In the definition the single word is used to capture both habitual and serial behaviour, but critically it reflects entrepreneurial people who constantly spot new opportunities that they are minded to act upon. They are not the metaphorical 'one trick pony'. Creativity and innovation[4] are key processual elements of this definition related to the theme of difference, but there is also an output ('something'). Hence, entrepreneurs 'bring into being something that was not there before', they apply their invention/idea as an innovation*[5] . For example, Shane's (2003: 8) general theory of

[3] Entrepreneurial talent (Ɵ) has also been shown to be a key influence upon entrepreneurs obtaining finance and, therefore, starting a business (Evans and Jovanovic, 1989). It is also central to Sarasvathy's (2001) thinking on effectuation and the use of expertise in entrepreneurial management/strategizing.

[4] A "process of turning opportunity into new ideas and putting these into widely used practice" (Tidd and Bessant 2009: 16).

[5] * Invention is something new but an innovation is when that invention is applied or practised (Link 2008). Or: 'think of an invention as the creation of a new technology. Innovation, then, is the first application of the invention – the technology – in production.' (ibid: x– xi)

entrepreneurship, the Individual-Opportunity-Nexus,[6] has as one of its central tenets risk bearing (Knight , 1921), and innovation, but in his case it is, "not grand Schumpeterian (1934) innovations", but a "much milder form … associated with Kirzner (1997). This output which has to be 'of recognised value' is an amalgam of perceived values, including commercial, social , environmental and/or possibly aesthetic/artistic. Bolton and Thompson (2004) exemplify this distinction with the social value of Dr Barnardo's homes for orphaned boys and argue that some (not all) artists and musicians exploit their talents in an entrepreneurial and commercially successful way. They can amass significant wealth and leave an artistic legacy. Exploiting 'perceived opportunities' is a 'key characteristic' of entrepreneurs (ibid). Shane's (2003) *Individuality-Opportunity Nexus* envisaged a process (Shane, 2003; Venkataraman, 1997; Shane and Venkataraman, 2000) involving (Shane 2003:9): Opportunities, Discovery, Exploitation, and Execution (Acquiring resources, Organisational design, and Entrepreneurial strategy). Specifically, Shane orders this process thus: Resource → Strategy → Organise → Perform (ibid). Lumpkin and Dess (1996) identified Entrepreneurial Orientation (EO), comprising: "autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness", again with innovation being a key element. On the other hand, idea formulation, concept formulation, product development, test marketing and international marketing are also key stages of innovation identified in a model in which innovators pass through 'gates' before the next stage (Cooper, 2001).

Bridge et al. (2008: 17-18) highlighted the shift from the conceptualisation of '*land*, *labour* and *capital*' and a scale-economies fixation (bigger better), due to changes in technology, and therefore, a fourth and fifth factor of production – *knowledge* (hence, innovation) and *entrepreneurship* – which … Indeed, they noted:

> "The places where knowledge was being **generated** were often not where it was being **exploited**. Universities, research institutes and large firms were generating the knowledge but it was being exploited by entrepreneurs in, for example, spin-outs which bred more spin-outs. As it became apparent that knowledge was often being exploited better through smaller firms than in larger ones, the importance of the individual entrepreneur, and of entrepreneurial capital, also gained recognition." (ibid: 18; emphasis added).

This highlights the division of the location of exploration and exploitation, which play key roles in organisational learning and the "learning organisation" (Argrylis, 1977; March, 1991; Senge, 1990). It also relates, most importantly, to changing geography as an effect of technology, as Arrow (1962) noted:

> 'My guess is that economic factors have little to do with bias in technological progress (though they may have a good deal to do with its magnitude). European desire for spices in the late fifteenth century may have had a good deal to do with motivating Columbus' voyages, but the brute, though unknown, facts of geography determined what in fact was their economic results.' (Arrow, 1962, p 35)

The relative locations of exploration and exploitation are clearly key. As are land, labour, capital, knowledge and entrepreneurship (Bridge et al, 2008). We would add to the equation a key sixth factor – ecology-environment-sustainability – which is a key driver of environmental innovations and, as we shall see in the next section, therefore, environmental entrepreneurship. Sustainability is not the same as land – indeed, it is an etho-regulatory value (or pressure) that is driving it. But we would argue that it is economically vital.

[6] Which could just as well be the Team-Opportunity Nexus given that the person is a personality, not a system (Bolton and Thompson, 2004).

Innovation and improvement is not just about the development of world-class new technologies, products or services – it is as much about making changes and improvements in the way in which things are done or managed, i.e. within the process or the 'business model' (paradigm) by which the core service is delivered to the 'customers' (cf. Tidd et al, 2005). The practice of innovation is not, however, restricted to profit-making, private sector firms, since it can also apply to organisations with social or environmental goals. Innovation can be further characterised or categorised in terms of (a) products and services, (b) processes, (c) market positions or (d) paradigms, i.e. business models (Utterback, 2004) and along the lines of radical or incremental innovations. More creativity, stimulated by an innovative and creative organisational culture (Christensen and Raynor, 2003), coupled with appropriate incentive or reward mechanisms, would drive forward impressive levels of innovation and improvement within organisations. Therefore, it is important to involve employees within the innovation process, or continuous improvement or kaizen as in Japanese companies, which is conceptualised as a cycle between knowledge, learning and innovations (Bessant, 2003). For example, there is much documentation on how productivity and efficiency was increased in Japanese manufacturing companies through Continuous Improvement (CI) based upon ideas from employees' suggestion boxes (Schroeder and Robinson, 1993; Bessant, 2003). Indeed, such authors identify a clear link between practising high involvement innovation and the performance of the firm (Bessant, 2003; Tidd et al, 2005). Cohen and Levinthal (1990) focused upon external communication and learning, whereas we consider the importance of both modes of internal and external learning, in the new forms of organisation which include extended stakeholder networks comprising external consultants etc. Their key contribution was absorptive capacity (AC):

> "The ability to exploit external knowledge is thus a critical component of innovative capabilities. … Thus, prior related knowledge confers an ability to recognize the value of new information, assimilate it, and apply it to commercial ends. These abilities collectively constitute what we call a firm's "absorptive capacity." At the level of the firm--the innovating unit that is the focus here--absorptive capacity is generated in a variety of ways. Research shows that firms that conduct their own R&D are better able to use externally available information ...." (Cohen and Levinthal, 1990: 128).

R&D spillovers can improve firm performance, as measured by total factor productivity (Sena 2004). An important distinction is whether an invention and/or innovation is (a) exogenous (outwith an organization or unexplained), such as technical change in the 'aggregate production function' (Solow, 1957) or disaggregated into 'an inter-industry and intra-industry component' (Massell, 1961); (b) induced; or (c) endogenous (within), such as Hébert and Link's (2006) chronology of the entrepreneur as an innovator. Henry Chesbrough's thesis was that "innovation does not require control" and he identified four generators of innovation (p39): innovation explorers ("discovery"); innovation merchants ("discover" but "narrow" and "commercial" goals); innovation architects (systems level e.g. Boeing); and innovation missionaries (e.g. open source software).

3.2 Strategy and Firm Performance in the entrepreneurial context

Entrepreneurial strategy or ***strategic entrepreneurship*** has been identified as a key type of both ***strategy*** and ***entrepreneurship*** (Mintzberg and Waters, 1982, 1985; Thompson, 1999; Meyer and Heppard, 2000; Hitt et al., 2001; Anderson, 2001; Kuratko and Audretsch, 2009). The seminal conceptual contributions of Mintzberg and Waters (1982, 1985), however, differentiated quite clearly between *intended* and *realised* strategies and – dependent on the extent of deliberateness – there could be

unrealized intended strategies but *emergent* realized ones. The decision-making basis of strategy is evident in the fact that they defined strategy as "a pattern in a stream of decisions", or actions, which may be 'imposed' upon certain types of business (Mintzberg and Waters, 1985: 257), e.g. environmental regulation or changing ethics. What Meyer (2009: 342) refers to as "intersections" or "interfaces" between strategic management (SM) and entrepreneurship, while elsewhere these are considered to be "integrating" (Kuratko and Audretsch, 2009). Meyer (2009) cited Nag et al.'s (2007) definition of strategic management (SM) having at its epicentre the strategic-tactical agency of "general managers on behalf of owners", seeing this as largely "corporatist-bureaucratic" activity or oligopoly.

Perhaps the most useful recent seminal contribution that helps our understanding of how entrepreneurial strategy influences performance (given that both entrepreneurship and SM are 'concerned with firm performance' (Kurtatko and Audretsch, 2009: 5)) is the distinction between the concepts of causative and effectual strategic-management styles (Sarasvathy, 2001). Sarasvathy (2001) defined the former as: "the logic of prediction ... To the extent we predict the future, we can control it", and effectuation as: "the logic of control … to the extent that we can control the future, we do not need to predict it." This draws a clear divide between 'analyse-and-predict' type models of strategic analysis, such as PEST, SWOT and Porter's Five Forces, and more entrepreneurial styles of strategy. Building on Rumelt et al's (1994) classification of strategic management being about 'behaviour, differentiation, scope and performance' (the latter being linked to resources and, particularly, the resource-based view of the firm [Penrose, 1959; Barney, 1991]), Venkataraman and Sarasvathy (2001) discuss the 'patchwork quilt' of products etc. that entrepreneurs develop, leading to superior performance. Whereas in SM it is, "rational decision-making … based on causal reasoning and the logic of prediction" (ibid). Strategic management (and, hence, causation) is about existing firms and methods to achieve value by *efficiency*, while entrepreneurship (thus effectuation) is about new firms and *creativity*, i.e. 'creating products, firms and markets' (Venkataraman and Sarasvathy, 2001). Hitt et al (2001: 13), meanwhile, described strategic entrepreneurship as: "entrepreneurial actions that are taken using a strategic perspective". Indeed, one of key ways of understanding how firms perform is based on their achievement of strategic competitive advantage based upon their dynamic capabilities (Teece et al, 1990; Teece, 2009).

Meanwhile, Drucker (1985a: 209) observed that:

> "There are four specifically entrepreneurial strategies:
>
> 1. Being "Fustest with the Mostest";
> 2. "Hitting Them Where They Ain't";
> **3. Finding and occupying a specialized "ecological niche";**
> 4. Changing the economic characteristics of a product, a market, or an industry."

These are not the same as Porter's generic strategies – cost leadership, differentiation, and focus – and, indeed, his five forces – the threat of substitute products; the threat of the entry of new competitors; the intensity of competitive rivalry; the bargaining power of customers; the bargaining power of suppliers. Entrepreneurial strategies are different. While a clear strategy or business planning process can be envisaged (Raynor, 1998), it is not necessarily so straightforward in entrepreneurship with higher risk or uncertainty, although evidence does suggest that planning, as opposed to 'reactive' strategy, can help SMEs avoid failure (Gelderen et al, 2000). And yet, as Raynor (2007: 2)) explained in *The Strategy Paradox*:

> ”Most strategies are built on specific beliefs about the future. Unfortunately, the future is deeply unpredictable. Worse, the requirements of breakthrough success demand implementing strategy in ways that make it impossible to adapt should the future not turn out as expected. The result is the Strategy Paradox: strategies with the greatest possibility of success also have the greatest possibility of failure. Resolving this paradox requires a new way of thinking about strategy and uncertainty. Here is a puzzling fact: the best performing firms often have more in common with humiliated bankrupts than with companies that have managed merely to survive. In fact, the very traits we have come to identify as determinants of high achievement are also the ingredients of total collapse. And so it turns out that, behaviorally at least, the opposite of success is not failure, but mediocrity.”

As it will become clearer below, it is rather difficult to disentangle the concepts of *strategic entrepreneurship* and *corporate entrepreneurship*. This becomes clear when we realise that we are essentially talking about the same constructs or concepts. They are both evidenced mainly in existing organisations (Venkataraman and Sarasvathy, 2001) and, indeed, what has even been described as “corporate bureaucracies” (Meyer, 2009: 346). The question of agency identified by Meyer (2009) quoting Nag et al ., actions of “general managers on behalf of owners … to enhance the performance of firms in their external environments” (Nag et al, 2007: 943), which Meyer (2009: 345) notes: “fits corporate activity but not entrepreneurs nor entrepreneurship”, with “corporate entrepreneurship … a diminutive segment of traditional entrepreneurship research.” Hence, there is a clear differential principal—agent phenomenon (Jensen and Meckling, 1976) in entrepreneurship, where general managers are agents for their owners, entrepreneurs are agents for no one but themselves as the ownership and management is symbiotic. That aspect of *ownership* is clear. And yet intrapreneurs, corporate entrepreneurs and corporate venturers (all clearly distinguishable), are not owners – except in some cases for some ownership of shares. The concept of corporate entrepreneurship straddles both entrepreneurial strategy and innovation as it comprises two elements, strategic renewal and corporate venturing[7]/innovation (Guth and Ginsberg, 1990). Yet, “if entrepreneurship is the Romeo to strategic management’s balcony (Venkataraman and Sarasvathy 2001), innovation is perhaps the Juliet” (Heinonen and Scott, 2010). ‘A rose by any other name…’ Corporate entrepreneurship research is insufficiently informed by literature on innovation, operating on a ‘closed innovation’ paradigm and ignoring the role of employees in the innovation—corporate entrepreneurship process (Heinonen and Scott, 2010).

Strategy implementation is essential to strategic management and, therefore, firm performance (Thompson and Martin, 2010). A distinctive form of management, entrepreneurial management, is also evident (Stevenson and Jarillo, 1990), with which Lumpkin and Dess (1996: 139) described entrepreneurial orientation as “analogous”. There is also entrepreneurial leadership (Kets de Vries, 1996; Thompson , 1999), which Thompson (op cit) added to corporate/strategic planning, competitive advantage, emergent strategies, core competencies and resource-based strategy and, and strategic leadership (Finkelstein and Hambrick, 1996; Rowe, 2001) to be topped by risk and crisis management, in achieving congruence between Environment, Values and Resources (E-V-R) in the E-V-R Model (Thompson, 1999), which is relevant to “managing uncertainty” (Raynor, 2007), or more effectual forms of management and strategizing (Sarasvathy, 2001), given that risk and uncertainty are fundamental to entrepreneurship (Storey and Greene, 2010).

[7] Corporate venturing is defined as : “where an ‘established’ organization enters a new business” (Covin and Miles, 1999:48). This is distinct from intrapreneurship which they consider to be : “an individual or individuals champion new product ideas within a corporate context” (ibid:48).

4. Environmental Entrepreneurship and the "Ecopreneurs"

Environmental entrepreneurship, sustainable entrepreneurship and ecopreneurship[8] has acquired a burgeoning body of research literature. Corporate Social Responsibility (CSR) and sustainability[9] are certainly nothing new, and have been extensively researched and theorised (e.g. Bansal and Roth, 2000). They have, however, rather akin to Strategic Management, been perceived as almost the sole preserve of the large corporation. There is, however, growing interest in ethics, entrepreneurship and the environment (e.g. Isaak, 1998; Morris et al, 2002). Here we seek to discuss *sustainable entrepreneurship*. Returning to the earlier definition of an entrepreneur, an **environmental entrepreneur** is, therefore:

> "A **person** who *habitually* creates and innovates to build something of recognised **sustainable and economic** **value** around perceived **opportunities**" (adapted from Bolton and Thompson, 2004: 16).

Indeed, "both entrepreneurship and environmentalism are founded on a perception of value" (Anderson, 1998: 135), with ecopreneurs having distinct ecological values from other entrepreneurs (Dixon and Clifford, 2007; Libecap, 2009; Linnanen, 2005). The 'common etymology' of *economy* and *ecology*, both from the Greek word *oikos* (house), demonstrate that both financial (or economic) and natural (or ecologic) capital or resources are symbiotic (Foster, 2003). *Sustainability capital* has been defined as:

> "entirety of different forms of capital that are subject to the (normative) constant capital rule, that is, the entirety of the capital that should be managed in a sustainable way" (Figge and Hahn, 2005: 57).

Hence, we adopt a *sustainable value* (Figge and Hahn, 2004, 2005, 2006; Hahn et al, 2007) consideration of environmental entrepreneurship, sustainable value being 'the value that exceeds a company's sustainability capital' (Figge and Hahn, 2005: 49). Sustainable value is a useful measure of the returns on environmental entrepreneurship and, therefore, provides a stronger indicator than traditional triple-bottom-line type measures.

The concept of environmental entrepreneurship is not, however, restricted to new ventures – indeed, sustainability applies in corporate entrepreneurship too (Miles et al , 2009). In this section we review some of the studies into environmental entrepreneurship. Much previous research has been on environmental improvements in companies (e.g. Bansal, 2005; Bansal and Roth, 2000) and specifically in existing small businesses (Harris and Crane, 2002; Schaper, 2002b; Parker et al, 2009; Walley and Stubbs, 1999). Indeed, Parker et al. (2009), from a systematic review of literature on SMEs' environmental improvements, identified a 4 x 4 matrix, segmenting firms according to the extent of performance orientation and environmental commitment (which may itself form a good trigger for entrepreneurship (Keogh and Polonsky, 1998)), while Linnanen (2005) contrasts environmental values and commercial goals in his 2005 model. We include these as Figures 1 and 2 as they proved helpful in the formulation of our new conceptual models.

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[8] Sustainable entrepreneurship, environmental entrepreneurship and ecopreneurship we use interchangeably and consider these to be synonyms and essentially the same concepts or constructs.

[9] Here we need to make clear that we are talking of *ecological sustainability* rather than the Porterian concept of *sustainable competitive advantage* or competitive sustainability. We consider sustainability to be synonymous with sustainable development, i.e. the same definition as adopted by Figge and Hahn (2005) from the World Commission on Environment and Development (WCED) (1987): "development that meets the needs of the present without compromising the ability of future generations to meet their own needs", and hence involving both 'intergenerational equity' and 'conservation of capital stock' (Figge and Hahn, 2005; Goodland and Daly, 1996).

	High	Profit Driven	**Advantage driven**
Performance Commitment	Low	Compliance driven	**Environment driven**
		Low	High
		Environmental commitment	

Figure 1 Environmental vs performance commitment
(Source : Parker et al (2009))

Desire to change the world	Desire to make money: LOW	Desire to make money: HIGH
HIGH	Non-profit business	Successful idealist
LOW	Self-employer	Opportunist

Table 2 DRIVERS OF ECO-BUSINESS SECTORS

(Source:Linnanen (2005)

FIGURES 1 & 2 TO BE RESET IN FINAL VERSION, WITH TABLE 2 ABOVE REDESIGNATED AS 'FIGURE' 2

While environmental business management (e.g. Hutchinson and Hutchinson, 1997) has 'focused its attention on how and why existing firms can become greener' (Schaper , 2005: 3), key recent developments have included 'the links between sustainability and innovation' (p3), and SMEs (p4) but until recently little consideration of entrepreneurship and the new venture creation dimension of green business (Schaper, 2005: 4).[10] The specific concept of *ecopreneurship* has been reviewed (Schaper, 2002a, 2005) with consideration of a typology of ecopreneurs and policy levers to encourage their inception (Isaak, 2005). Ecopreneurship had its inception in the 1970s (for, example, Quinn (1971) is cited by Schaper (2005)), but has gained traction more recently; yet remains a nascent field (Schaper, 2005; Cohen and Wynn, 2007; Kirkwood and Walton, 2010a). Indeed, this is clear by perusing the reference lists of a number of papers, which are light on specific literature on this topic.

Many environmental entrepreneurship authors fail to engage deeply with the mainstream literature on entrepreneurship. Notable exceptions include research into how values change and influence environmental entrepreneurship (Anderson, 1998), sustainable entrepreneurship education (Lourenço et al., 2005), the importance of organisation design in sustainable entrepreneurship (Parrish, 2005, 2007a, b), and motivations (Kirkwood and Walton, 2010a), on internationalised supply chain management (Kirkwood and Walton, 2010b), and the wider sustainable entrepreneurship literature (e.g. Cohen and Winn, 1997; Parrish and Tilley, 2010; Tilley and Parrish, 2009). Kirkwood and Walton (2010a) state that: "the ecopreneurs in this study appear to have significantly wider motivations than merely exploiting a niche market….Thus, our view is that they may represent a shifting paradigm in

[10] Conversely, Schaper (2002c) argues that the entrepreneurship field rarely addresses sustainability.

terms of the way businesses operate." We approach this *type* of entrepreneur from an entrepreneurial-strategic-innovation approach, which is informed by the *talent, temperament and technique* of these personalities, i.e. individuals or teams, (cf Bolton and Thompson, 2004). There have been numerous books focusing on environmental entrepreneurship (e.g. Blue, 1990; Bennett, 1991; Isaak, 1998). Furthermore, a number of research papers, Schaper (2005: 3) identified that gaps in the literature included definitions, typologies, barriers/triggers, case versus quantitative research, and policies. Whilst he also considers the question of whether qualitative (interpretivist) or quantitative (positivist) epistemology is most appropriate to papers on this field (ibid), it is notable that Kirkwood and Walton (2010a) *rightly* boast that they have, "one of the largest samples of ecopreneurs to date" – they have 14 cases. Kirkwood and Walton (2010a) identified key topics for future research:

- **Motivations** (and prioritised ones) for start up; compared to other entrepreneurs;
- **Values'** impact on start up; values-profit 'tension'; change over lifecycle;
- **Strategies**, including to mediate 'tension' and avoid erosion of values;
- **Growth** aspirations and impact of 'tension'; what are 'success' factors for them?

Start-up motivations for ecopreneurs are, "their green values, earning a living, passion, being their own boss, and seeing a gap in the market", with the first being quite distinct from other entrepreneurs, but otherwise the same, and a predominance of 'pull factors' (Kirkwood and Walton, 2010a). Future research should consider the interplay between values, strategies and performance/growth (e.g. Stanwick and Stanwick, 2005) based on key theoretical frameworks such as the E-V-R model (Thompson, 1999) and other concepts of entrepreneurship, innovation and strategy discussed in the previous section. There is some evidence that environmental entrepreneurs may be disinterested in 'economic success' (Allen and Malin, 2008). The entrepreneurial talent of environmental entrepreneurs, including measures such as efficacy, is clearly important (Hostager et al, 1998) as, indeed, is their ability to exploit opportunities and innovations (Azzone and Noci, 1998), or using clusters/networks to expand (Tagar and Cocklin, 2005).

Due to its qualitative nature, much of the previous literature has focused upon in-depth understanding of processes, motivations and developing typologies of environmental entrepreneurs. However, there are other avenues of inquiry that may be more fruitful; for example, the issues around performance and growth of environmental enterprises, still a rather neglected area (though the social entrepreneurship literature suggests that many social enterprises have commercial weaknesses, i.e. relating to talent). This relates again to entrepreneurial talent, but also the strategic management concept of dynamic capabilities (Teece et al, 1990) and exploration versus exploitation. It has been observed that there is a 'capability paradox' in dynamic capabilities where there are different capabilities required for explorative (i.e. inventive) versus exploitative (commercialising) activities (Schreyögg and Kliesch-Eberl, 2007), for example in biotechnology (Sing, 2010). Similarly, environmental entrepreneurship is driven by the development of technologies and innovations which may involve the entrepreneur balancing scientific/environmental expertise with entrepreneurial talent, most obviously mitigated by the deployment of environmental entrepreneurial teams. Balancing market and environmental sustainability goals in innovation can be a very difficult process (Berchicci, 2009), no doubt a key challenge for entrepreneurs.

Measuring the number of environmental entrepreneurs – and, therefore, their contribution to employment, wealth creation and sustainable value – is certainly a challenge, since some non-environmental firms may diversify into lines of business that have environmental aims (Hendrickson and Tuttle, 1997). But this depends how we define them, for example based upon Standard Industrial Classification (SIC) codes or some other understanding of the particular industry they are involved in (Eastwood et al, 2001), although their economics can be modelled (Kotchen, 2009). Moving on from definitions and typology, then, as discussed above, we need to understand how to influence their performance, for example through market leadership (Peterson, 2005, 2006, 2010), or as performance has been measured already in existing SMEs (Hitchens et al, 2006; Simpson et al, 2004). Clearly, - since much of the research into environmental entrepreneurs has had a focus on micro-enterprises (e.g. de Bruin and Lewis, 2005, 2010), on the process of start up (Freimann et al, 2010) on their values (e.g. Kirkwood and Walton, 2010a) - it may be necessary to widen this conceptualisation of the environmental enterprise and entrepreneur. And yet, it has been argued that environmental innovation is, "inherently messy and complex institutional process, which cannot be reduced to the psychology of entrepreneurial personalities" (Beveridge and Guy, 2005).

This section has reviewed critically the extant literature on environmental entrepreneurship, and below we endeavour to reconceptualise the concept based upon our discussion of some of the key theories of entrepreneurship, innovation, strategic management and firm performance.

5. Reconceptualising Environmental Entrepreneurship and Sustainability

Arguably, we are trying to bring together three strands: science, belief and action:

> **Science** implies a research agenda and a clear demonstration of the relevant costs and benefits. The case has to be made and it has to be believable. PR etc will be important for making the case and gathering support – this in turn requires
>
> **Belief** – and passion – from someone who cares about the issue, the cause and wants to do something. Ideally they don't just want to make the case and see others take on the challenge, they want to make something happen themselves. Hence the
>
> **Action** – Believers who espouse a cause and focus on promoting the cause are really campaigners. Entrepreneurs put in place something which helps secure the necessary funding for effective action, builds a strong team of supporters and willing hands, and makes something happen. They lead from the front and they understand the need for sustainability.

People generally, and including the entrepreneurs behind businesses that have some impact on the environment, might actually be uncaring or ambivalent towards the environment. They might instead be people who do care enough to want to leave as they find. If they destroy something they are willing to repair the damage. Others are far more passionate about issues and causes and will want to be active – actively sponsoring some things and fighting against others.

There is a debate to be had about what we mean by environmental capital – and whether it can actually be created in the way that financial and artistic/aesthetic capital can, or whether it can only be preserved or destroyed. In other words the natural environment exists in its own right. We might be able to influence or change nature, but does it follow we are improving it?

5.1 Environmental Entrepreneurs

In previous work Bolton & Thompson (2004) identified a 'social facet' which can affect a person's temperament. This manifests itself as a hierarchy of four stages; the same four stages apply to the environmental entrepreneur. Indeed the social and the environmental entrepreneur are very similar in a number of ways; the 'true" social and environmental entrepreneurs are driven by an identified cause.

The first (lowest) level relates to **beliefs –** which affect and influence the way in which we look at the world. At a simple level our beliefs affect the charities we are most likely to support. Some businessmen and entrepreneurs will acknowledge environmental issues and, say, use energy-saving light bulbs and encourage staff to switch off lights. They may buy hybrid company cars, go 'Fairtrade' in the company restaurant and use recyclable/disposable packaging – and so on. They might put in for environmental awards in their local business awards. And yet the environment is not 'core' to their business model in any meaningful way. It is also not unusual for business people to hold beliefs which they could, but do not, take to work.

One step up is **values –** whereby the beliefs have become core to the business. Anita Roddick did not found Body Shop for the purpose of conservation but she quickly realised she could blend commerce and causes she felt passionate about. It was a win-win for her, but things changed when competition hotted up and certainly when L'Oreal bought the company. Natural ingredients sourced in the third world and no animal testing 'define' the Body Shop product to this day. Whilst the new owners, L'Oreal, may not have the same passion as Anita Roddick, they realise the benefits of the association with the environment and sustainability.

Step three, **mission,** is evident when the environment/ecological cause is the reason for the business being there in the first place. It is a channel through which someone pursues their beliefs and values.

Service (to others) is where the true environmental entrepreneur has given his (her) life's work to the cause.

It is important to factor in that a social enterprise need not be entrepreneurial and it need not be run by someone we might describe as a social entrepreneur using the definition of an entrepreneur we identified earlier (Thompson, 2008). Social entrepreneurship can be found in businesses that are not social enterprises. Social entrepreneurs may be operating outside the world of business and commerce. Thus we would argue that our study of this subject needs to identify 'good practice' examples of organisations that are environmentally entrepreneurial (breaking new ground with fresh ideas and leading our thinking about what is possible) and environmental entrepreneurs who are truly committed to the environmental and/or sustainability cause. Whilst they may, the former need not be driven by an environmental cause; they may instead be profit-driven but realise there is a potential competitive advantage in 'being green' .Significantly, the outcomes in terms of the triple bottom line can be very similar. Arguably outcomes are more important than motives – which reinforces that progress in this field can be the result of both opportunities that environmentally-minded entrepreneurs spot and act upon, and also on imposed constraints (which, of course, in turn provide opportunities for vigilant entrepreneurs and entrepreneurially-minded businesses).

5.2 Two New Conceptual Frameworks

Cross-referencing the work of Isaak (1997, 1998, 2005), we therefore need to look at businesses where we might say there is environmental entrepreneurship or something we might wish to describe as an environmental enterprise/business and examine their origins and motivation.

What is now an environmental business might well have started out that way – and it might have started out that way because the person behind it spotted a real opportunity 'to do good'. But it could be an environmental business because legislation (or whatever) places constraints on an industry or a sector that has pushed them this way. Some businesses have become environmental through learning and emergence as they have realised an opportunity – they weren't started with environmental issues a significant variable. They have (again, though) spotted a market opportunity or more reactively responded to market dynamics.

Figure 3 is developed from themes in a paper by Walley and Taylor (2002, 2005, 2010), itself drawing from Thompson (1998). It looks to categorise businesses that have something of an environmental theme central to their activity. This could be because of a desire to work hard for the environment or the potential for them to harm the environment such that there is some form of regulation in evidence.

The *vertical axis* uses what we might call a Business Sustainability Index. This would be based on (certainly) a double or (maybe) a triple bottom line assessment of their achievements – which can then be high or low in a 2x2 matrix.

The *horizontal axis* splits opportunity and constraint. It looks at whether the environmental cause (right column) or the regulatory regime (left column) was the driving force for the business.

We can then identify four situations:

A truly environmental business – *which is strong on various measures and driven by individually identified opportunities*

Businesses that exploit a regulated 'world' successfully - *a model performer in the circumstances they find themselves in*

Disappointing business – *which are under-achieving either environmentally or financially – or both*

Businesses where there is an inadequate response to regulatory expectations - *either the business is resisting the regulation or the regulation is too constraining.*

Attention then needs to be given to those in the bottom half, the third and fourth of the above situations. In the bottom right quadrant are businesses which need a better business model or better management; for those in the bottom left quadrant we have to ask whether it is a question of the regulation allowing a business to be slack and inefficient (financial under-performance), or whether the regulation is badly crafted and leading to counter-intuitive effects and outcomes (environmental under-performance).

Figure 4 again has a triple bottom line sustainability Index as the vertical axis but this time the horizontal split is based on Economics Predominates (left) and Environmental Concern Predominates (right).

Our four quadrants then are:

Successful realisation of environmental opportunity - *'There's money in green'* – (A*)*

Environmental entrepreneurship in evidence (B)

Profit is everything (C)

Environmental champions who talk well but achieve little of significance (D)

There are four challenges relevant to each quadrant:

A. We have to accept that these businesses are delivering even if their motive for doing so is opportunity-responsive rather than environmental commitment. Ideally, we should look to get them to find new green opportunities and become habitual or serial entrepreneurs and thus exploit the entrepreneurial talent they have.

B. These are environmentally entrepreneurial businesses – driven by causes. They are probably driven by real environmental champions but we must make sure they are financially sustainable as well. They could be grant dependent. If they are reliant on grant rather than trading income our challenge is to make them more robust financially.

C. We must question how much environmental damage they might be causing. Do we need more regulation to deal with them? Our challenge is to find ways of regulating for the environment without unnecessary bureaucracy – accepting that not everyone (and not everyone who votes!) is really on-message.

D. Can we harness their commitment and move them up the vertical scale by them becoming more enterprising? Our challenge might be to prove to them that 'entrepreneurship' (with something of a business perspective) is a positive and not a negative behaviour.

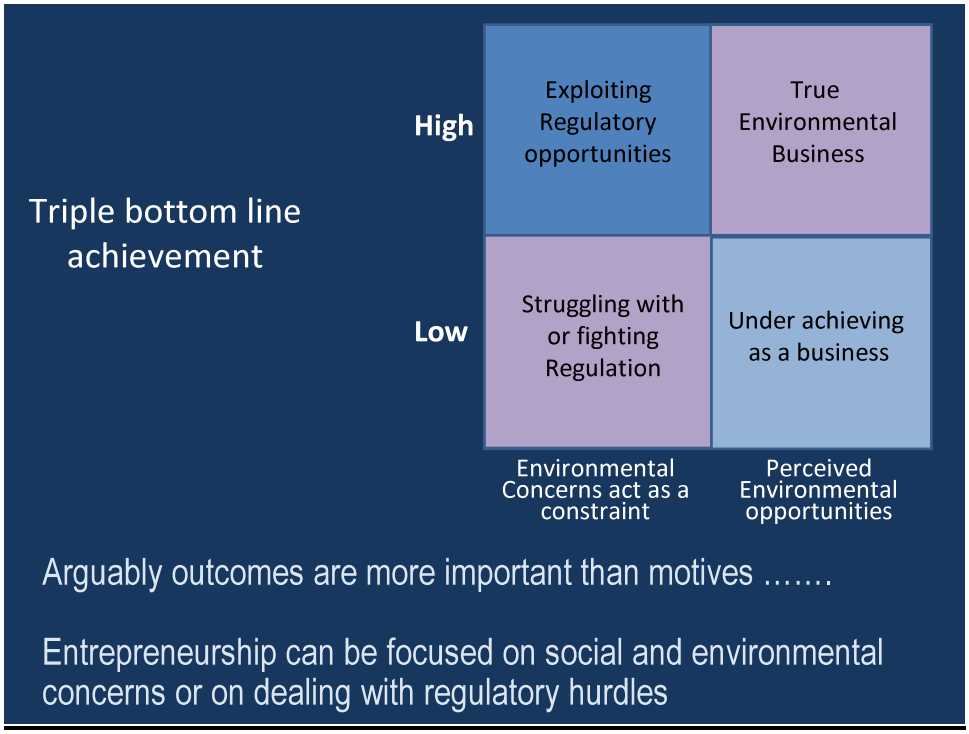

Figure 3

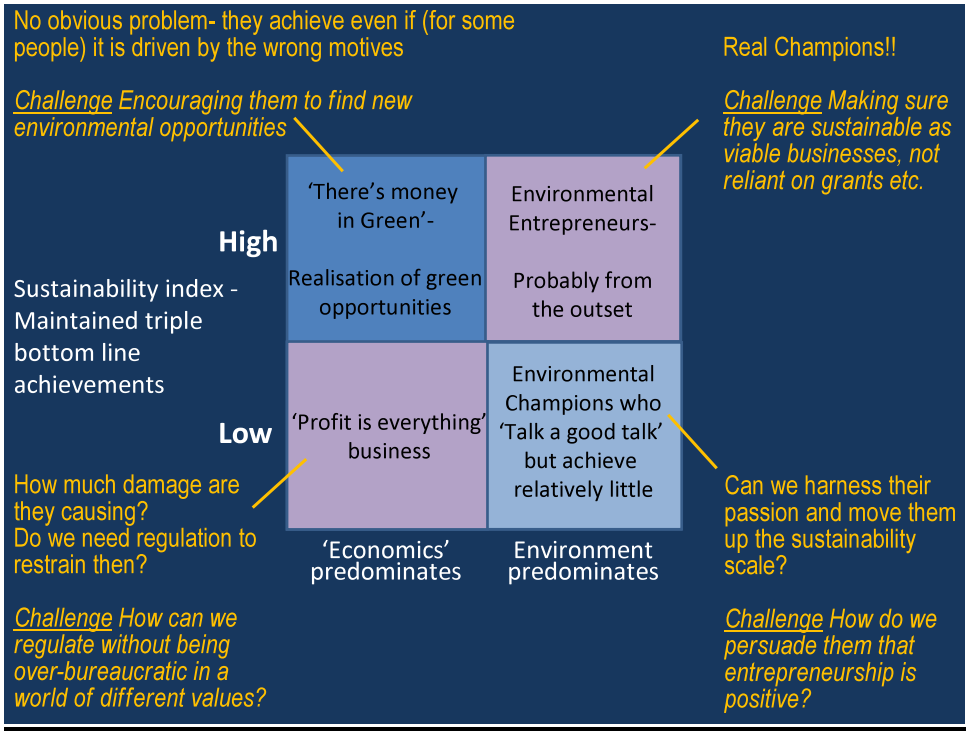

Figure 4

6. Conclusion and Recommendations

The ‘desired outcome’ from environmental entrepreneurship is what we might term sustainable businesses. Robust triple bottom line achievements would be seen as an explicit measure. To achieve this we believe ‘entrepreneurship’ is implicit.

Environmental entrepreneurs need an *understanding* of economic, social and environmental issues and concerns, a *belief* in social and environmental causes, and a *desire to do something.* If they are ‘entrepreneurs’ this doing element could well be a business. If, instead, they espouse the cause but do not develop a business of some form it is arguable that they are activists and not entrepreneurs – although they might be entrepreneurial in the way they present their case.

Some so-called environmental enterprises (much like social enterprises) might depend heavily or grant funding and not be sustainable without this dependency. Whilst they might be entrepreneurial in the way they find funding it remains debatable whether this creates sustainable businesses.

Some businesses that do achieve well against triple bottom line measures are started and run by people who would (justifiably) describe themselves as cause-driven environmental entrepreneurs. But others are either successfully dealing with legislative constraints or finding environmental opportunities in green legislation. Their motives might not be those of the ‘true’ environmental entrepreneur but their manifest achievements are similar.

However, there is a hidden layer to this statement; and we must address why the legislation and/or constraints are in place. These, in turn, could themselves be global, national, regional or even local in origin. Regardless, someone has championed them. They may be in place because someone in government or in another position of power or influence believes in their importance and has ‘made them happen’. Equally they may be a reaction to pressure from activists. This reaction may involve true conviction or be politically expedient. There could well be evidence of entrepreneurship, either from an entrepreneurial activist or a corporate entrepreneur within government. One outcome of this person’s efforts and intervention is the legislation that changes the behaviour of some organisations whilst opening the door to new opportunities for other entrepreneurs and entrepreneurial firms. Another possible outcome would be a willingness amongst consumers to accept that price increases are justified where they lead to important environmental improvements. We might call this person an entrepreneurship enabler (Thompson 2010).

We argue that outcomes are perhaps more important than motives in environmental entrepreneurship. We further contend that in many cases the real challenge is less about ‘greening businesses’ than it is about making green businesses more businesslike. Carefully drafted legislation or other forms of control can generate environmental protection and improvement – of course poorly drafted control can have counter-intuitive or even counter-productive outcomes. Cause-driven activists may behave in quite creative and enterprising ways but if they are not businesslike their endeavours are unlikely to be sustainable. The key challenge, as it is with many social enterprises, is to make sure that the social and environmental aspects of the triple bottom line do not cause the people behind them to lose sight of the need for financial robustness. We can, then, help, support and ‘enable’ environmental entrepreneurship but we have to understand the motives, needs and capabilities of the relevant ‘entrepreneurs’ if we are to be effective.

Therefore, building on prior work by Bolton and Thompson (2004) – which identified a 'social facet' which can affect a person's temperament and which manifests itself as a hierarchy of four stages – the authors have developed two new 2x2 conceptual frameworks. Both feature a Business/Environment Sustainability Index (e.g. a double or maybe even a triple bottom line assessment or sustainable value (Figge and Hahn, 2004, 2005, 2006; Hahn et al 2007)).

The first model distinguishes between businesses where environmental concerns act as a constraint and businesses where there are perceived environmental opportunities. The second is a derivation from this and examines businesses where 'economics' predominates and those where 'the environment' predominates. With this second model we are in the process of using our case examples to look at the types of business/enterprise that can be found in each quadrant, to assess their relative contribution and also discuss the challenges we face if (using support mechanisms) we are to help them become more efficient and more effective.

At a global level, we are concerned about things that are happening in the world, generally things many perceive as 'negative' in the context of (environmental) sustainability. At a national level, wealthy and successful regions attract more money and value creators, while relatively unsuccessful regions enter into a spiral of decline, resulting in blighted landscapes and no-go areas – whilst their renewal might be a local issue it has wider connotations – the funding and energy required could go elsewhere. Locally, it can be tempting to believe any development is better than no development. But there are few easy and obvious answers to the challenges we face. Specifically there are the challenges of (i) balancing legislative constraint with entrepreneurial freedom, (ii) the challenge of persuading many cause-driven 'would-be entrepreneurs' that commitment to an (environmental) cause does not, in itself, lead to an effective and sustainable triple bottom line business, and (iii) the challenge of discerning the most appropriate enabling and support mechanisms.

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